

REMARKS

Claims 16-33 are pending in this application. By this Amendment, claim 16 is amended to address a 35 U.S.C. §112 rejection. Claims 17 and 25 have been amended to more clearly distinguish over related art. Support for the amendment to claims 17 and 25 can be found in the specification at paragraph [0024]. Claim 23 has been rewritten in independent form. Claim 24 is amended to provide antecedent basis for "at least one layer." Claims 31-33 are new. Support for claim 31 can be found in the specification at paragraph [0022]. Support for new claims 32-33 can be found in the specification at paragraph [0023].

I. Rejection under 35 U.S.C. § 112

Claim 16 was rejected under 35 U.S.C. § 112 as allegedly being indefinite. Applicant respectfully traverses this rejection.

Claim 16 has been amended to recite "A method of manufacturing a press felt, the method comprising forming a base fabric comprising at least one layer, wherein the at least one layer comprises a first planar component..." Applicant submits that there is now antecedent basis for the at least one layer. Reconsideration and withdrawal of the rejection are thus respectfully requested.

II. Rejection under 35 U.S.C. §103(a)

Claims 16-30 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over WO 02/053833 (Hyvonen) in view of U.S. Patent No. 4,501,782 (Weatherly), U.S. Patent No. 5,360,656 (Rexfelt) and U.S. Patent No. 5,713,399 (Collette). Applicant respectfully traverses the rejection.

Hyvonen in view of Weatherly

The Patent Office alleges that Hyvonen discloses a press felt, a base fabric for the press felt, and a method of manufacturing the press felt. The press felt comprises a base

fabric and a batt fiber layer on the side facing the web. The Patent Office concedes that Hyvonen discloses butt seams and does not disclose lap seams.

The Patent Office further alleges that Weatherly discloses an overlapping ultrasonically welded seam for bonding transverse edges of thermoplastic webs. Applicant submits that the thermoplastic webs of Weatherly are different to the extent that they are inappropriate for press felts.

The thermoplastic webs cited by the Patent Office are referred to by Weatherly as Fourdriner machine clothing. See column 4, lines 19-20 and mesh of Weatherly.

One of ordinary skill in the art understands that dryer wires as in Weatherly are not the same as press felts. For example, the mesh of Weatherly does not include any batt fiber, whereas in press felts, the batt fiber is needed to improve water retention properties of the press felt. Wire mesh is not used in the press section of a paper machine and is not intended to receive water from the web. One would not have looked to Weatherly for any teachings relevant to Hyvonen.

Further, although Weatherly discloses a lap seam in the transverse direction, Weatherly further teaches that the overlap should be less than 1.5 times the web thickness. See column 2, lines 50-52 and column 4, lines 55 to 62. Only one shute should be removed to minimize the overlap of the warps with the opposing shutes. See column 5, lines 20-23.

The very short overlap as taught by Weatherly is inappropriate for a press felt because the resulting seam would not be strong enough in a press felt. This is because one of ordinary skill in the art recognizes that the loads directed to a press felt and the conditions of the press felt section are different than the loads experienced in a drying section of a paper machine. One would not have found the overlap described in Weatherly useful in Hyvonen for this additional reason, and thus would have had no reason to have combined the references as alleged in the Office Action.

In view of Rexfelt

Rexfelt teaches a press felt that is endless in the machine direction. The press felt as taught by Rexfelt comprises a base fabric that is composed of spirally wound narrow fabric strips. See column 2, lines 10-16 and Figure 1 of Rexfelt. The width of the base fabric is determined by the number of spiral turns of the fabric strip. See column 2, lines 24-26. The strip width may be 0.5 - 1.5 meter and the width of the press felt may be wider than 10 meters. See column 2, lines 32-34.

In Hyvonen, the base fabric modules to be interconnected are as wide as the press felt. See page 3, lines 31-33 of Hyvonen.

Further, Rexfelt teaches the spacing between the longitudinal threads is increased. The present claims require a smaller density of transverse yarns in the joining edge. See claim 16 of the present application. Also, Rexfelt teaches overlapping seams in the machine direction, with widths in the transverse machine direction. The seam as recited in the present claims is in the transverse direction with its width in the machine direction.

Because Rexfelt teaches a totally different manufacturing technique, it would not have been obvious to have combined the teachings of Rexfelt with Hyvonen.

Therefore, Rexfelt neither teaches nor suggests a press felt as recited by the current claims.

In view of Collette

Collette discloses a paper machine fabric including spirally wound fabric strips in the machine direction and spirally continuous seams between the adjacent narrow fabric strips. See column 2, lines 51 to 55 of Collette. Further, Collette specifically teaches away from a flat woven structure including a transverse seam. See column 1, lines 18-28 of Collette. It is clear that the spiral winding method as taught by Collette is completely different as compared to the method recited in the present claims, wherein at least one planar base fabric component

is connected into a shape of a closed loop by arranging a first transverse joining edge and a second transverse joining edge together.

Further, Collette teaches the longitudinal yarns are removed from the joining edges. The present claims require a smaller density of transverse yarns in the joining edge. See claim 16 of the present application. Collette teaches overlapping seams in the machine direction, with widths in the cross machine direction. The seam as recited in the present claims is in the transverse direction with its width in the machine direction. Because Collette relates to a totally different manufacturing technique, it would not have been obvious to have combined the teachings of Collette with Hyvonen.

Combination of the Cited Documents

Hyvonen teaches a laminated press felt having a base with two superimposed independent layers. It would not be possible to arrange every independent laminate layer to overlap as alleged by the Patent Office. If the suggested overlapping were to have been applied to the press felt in Figure 9 of Hyvonen, every independent layer (items 4, 5, and 6 in Figure 9) would have to be arranged to overlap. Handling, overlapping and pressing the several layers independently would be impossible. Since Hyvonen teaches to arrange butt seams at different longitudinal locations in the seam area, there is no need for the suggested (and impossible) overlapping. The seam between the base fabric modules as taught by Hyvonen are sufficiently strong because of the laminated structure and the butt seams in each layer. Thus, there is no reason to replace the butt seams in each laminate layer.

Thus, in addition to the above deficiencies of Weatherly, Rexfelt and Collette, these references are further deficient in failing to suggest any reason for one of ordinary skill in the art to have replaced the butt seams in the structure of Hyvonen with a very different, impossible to employ overlapping seam structure used in the different fabric structures and designs of Weatherly, Rexfelt and Collette.

Dependent claims 17 and 25

Claim 17 has been amended to recite "...removing transverse yarns from at least one joining edge area of the first component from a portion having a length of between 5 and 20 mm." Claim 25 has been amended to recite "...transverse yarns have been removed from at least one joining edge area of the first component form a portion having a length of between 5 and 20 mm." The basis for these amendments may be found at paragraph [0024]. As discussed above, Weatherly teaches that the overlapping area should be as short as possible. Column 5, lines 20 to 22 of Weatherly recite that it is desirable to remove only one shute thereby minimizing the overlap. Claims 17 and 25 clearly distinguish over Weatherly.

Dependent claims 18 and 26

Weatherly does not disclose providing the joining edge area with smaller density of transverse yarns than the rest of the mesh. Weatherly only discloses removing the outer-most yarn from the joining edge.

In Rexfelt, the spacing between the longitudinal threads in the edge portion is increased. In Collette, longitudinal yarns are removed from the joining edges. In claims 18 and 26, it is defined that a lesser density of transverse yarns in the joining edge area is used. Thus, the teachings of Rexfelt and Collette are opposite to the teachings of the present claims.

Dependent claim 21

None of the cited documents disclose that there is a non-linear boundary surface between an attachment area and the rest of the first component.

Dependent claim 22

None of the cited documents discloses that there are several attachment points which form a pattern that imitates the pattern of the base fabric surface.

Dependent claim 23

None of the cited documents teach or suggest arranging a first planar component on top of the second component having the shape of a closed loop.

Dependent Claim 28

Because Weatherly teaches that the seam overlap should be as short as possible and that desirably only one outermost yarn is removed from the joining edge, Weatherly does not teach or suggest claim 28, wherein it is defined that the width of the overlapping area is 5 to 20 mm in the machine direction.

In Rexfelt and Collette, the width of the overlapping seam is in the cross machine direction, not in the machine direction.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 16-33 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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